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Remarks

Reconsideration of the application and allowance of all claims pending are respectfully requested. In view of the Office Action having been made final, no amendments to the claims have been requested. Claims 1-17 remain pending.

Claim Rejection - 35 U.S.C. §102:

Claims 1-17 were rejected under 35 U.S.C. §102 as being anticipated by Hamanaka (U.S. Patent No. 5,500,523). This rejection is respectfully traversed.

Claim 1 is directed to a processing unit where communications among the processing units is effected by a free space beam line. The processing unit includes an aperture for passing the beam line and is configured to permit installation and removal of the processing unit without blocking the beam line. A means is provided in each aperture for receiving optically encoded signals from the beam line after installation. Reference may be made to figures 11-12 of the subject application for illustrative, but not limiting, examples. In an embodiment of the present invention, the installation or removal of any one board does not cause a disruption of the light beam to any of the other boards.

In the Office Action, claim 1 was rejected as being anticipated by Hamanaka with regard to its FIGs. 2 and 4. Applicant appreciates the explanation provided in section 3 of the Office Action as to the examiner's interpretation of Hamanaka. It is the examiner's contention that the circuit board (11 in FIG. 2 and 10 in FIG. 4 of Hamanaka) does not have a bottom edge that extends below the optic windows 31, 32 such that the insertion of board 10 into a slot 20a of motherboard 20 will not interrupt optical beams generated by LED arrays 60. It is stated in the Office Action:

"the examiner believes that the bottom cross-hatched area shown in Hamanaka's FIG. 2 does not extend the entire length of the circuit and does not form the bottom edge of the circuit board. In fact, the possibility exists that the cross-hatched area shown in FIG. 2 and 4 is simply a leg or stand-off used to properly position the board at a desired height from the element 50 shown in FIG. 4 and 5,

and that the window portion of the processing unit forms a "T" around the stand-off legs. This possibility is supported by Hamanaka's disclosure that the "electronic circuit board 11 has an opening 11a defined in one end thereof." Emphasis added.

Applicant respectfully disagrees with this interpretation of Hamanaka. First, describing an object being located at "an end" of a structure is not specifically descriptive of location and would not be understood by one of ordinary skill in the art as to define a specific location of the object relative to an edge of the structure. For example, consider a knife or other hand tool described as having a handle with a hole disposed "in one end thereof". It would be clear to one of ordinary skill of the art from this example that the hole would be located near but not touching the extreme distal termination of the handle. This example is relevant to the interpretation given Hamanaka and the subject application in that it demonstrates that one of ordinary skill in the art would not understand the description of a circuit board having an opening defined in one end as inherently requiring the structure suggested by the examiner, i.e. the hole being part of an edge of the circuit board.

"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) Emphasis added to this quotation found in the MPEP 2112.

The "possibility" that Hamanaka might have the structure suggested by the examiner is clearly conjecture that is impermissibly based on the hindsight teachings of the present invention. Such an interpretation is not legally permitted.

Hamanaka does not teach or suggest that its boards 10/11 can be inserted in or taken out of active engagement with the light beams on the motherboard without disrupting the light beams to other boards. In fact, Hamanaka teaches a structure that will cause a disruption of the light beams upon insertion or removal of a circuit board. The following are facts, not possibilities or

conjecture, disclosed that Hamanaka. FIG. 2 shows a bottom cross-hatched portion of the circuit board 11 extending below the window 11a. Importantly, FIG. 2 is described in the Brief Description of the Drawings section of Hamanaka as "an enlarged fragmentary cross-sectional view of the electronic circuit board showing in FIG. 1, the view being taken along an optical path." Emphasis added. It will be noted that the optical beam A - A' as seen in FIG. 2 is shown in the plane which includes the bottom portion of the circuit board. Since the plane of FIG. 2 is the optical plane and the bottom section of the circuit board is shown cross-hatched just like the upper section of the circuit board, one of ordinary skill in the art would understand that a portion of the circuit board extends under the optical window.

This makes it clear that the bottom portion of the circuit board as seen in FIG. 2 extends beneath the optical window 11a and the actual optical beams, and hence would cause a disruption of the optical beams upon the board being inserted or removed from a slot in the motherboard. Therefore, one of ordinary skill in the art would understand based on the teachings of Hamanaka that the optical beams would be disrupted with the insertion into or removal from the motherboard of a printed circuit board. Hence, Hamanaka does not provide a teaching of a required limitation of claim 1 and hence the rejection of claim 1 under 35 U.S.C. 102 should be withdrawn.

Claim 4 further recites a processing unit wherein the removable portion of the processing unit is configured to be replaceable after installation without blocking said beam line. In the Office Action, the only explanation of how Hamanaka teaches this requirement is "as seen in Figure 4". FIG. 4 of Hamanaka merely shows the insertion of a board 10 into a motherboard 20. Nothing about the board 10 is 'replaceable' after the installation of the board 10 without blocking the beam line. Nothing about board 10 is intended to be movable or replaceable once it is seated in a slot in the motherboard. Hence, Hamanaka does not support a teaching of the required limitation.

Independent method claim 11 defines a method for installing and removing processing units wherein communications among the processing units is effected by a free space beam line. An aperture is provided in the processing units. The processing units are installed so that the beam

line passes through the aperture so as not to block the beam line during the step of installing. As explained above with regard to claim 1, the Hamanaka reference discloses a board having a configuration that will cause a disruption of optical beam lines carried through the motherboard upon the insertion of such a board into its corresponding slot in the motherboard. Thus, Hamanaka does not anticipate the method of claim 11.

Claim 12 describes a moving a movable portion of the processing unit out of a way of the beam line during installation, and replacing it after installation. No such teaching is found in Hamanaka for similar reasons explained above regarding claim 4.

Claims 14-17 are directed to allowable subject matter in view of the teaching of Hamanaka for reasons explained above.

In section 4 of the Office Action, it was indicated that applicant's amendment necessitated the new ground of rejection. This is not accurate. First, note that independent claims 1 and 11 were and remain "original", i.e. never amended. Second, the same ground, i.e. Hamanaka, was again alleged to support a 35 U.S.C. 102 rejection. Hence, making the Office Action final based on these stated reasons is not valid, and the finality should be withdrawn.


Pursuant to MPEP 706.07(c), it would be inappropriate to make a following Office Action final should new references or grounds be applied in support of a rejection of any of the claims not amended by applicant since no change of position with regard to unamended claims could have been caused by applicant.

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In view of the above amendments and remarks, allowance of all claims pending is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call applicants' attorney.

Respectfully submitted,



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